



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/606,604 | 06/26/2003 | Cesar A. Gonzalez | VRT0055US | 4147 |
| 60429 | 7590 | 05/04/2007 | EXAMINER | |
| CSA LLP | | | DOAN, DUC T | |
| 4807 SPICEWOOD SPRINGS RD. BLDG. 4, SUITE 201 AUSTIN, TX 78759 | | | ART UNIT | PAPER NUMBER |
| | | | 2188 | |
| | | | MAIL DATE | DELIVERY MODE |
| | | | 05/04/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | |
|------------------------------|-----------------|--------------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 10/606,604 | GONZALEZ, CESAR A. |
| | Examiner | Art Unit |
| | Duc T. Doan | 2188 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 02 March 2007.
 2a) This action is FINAL. 2b) This action is non-final.
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-33 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) Claim(s) _____ is/are allowed.
 6) Claim(s) 1-33 is/are rejected.
 7) Claim(s) _____ is/are objected to.
 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.
 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.14. Applicant's submission filed on 3/2/07 has been entered.

Claims 1-33 have been presented for examination in this application. In response to the last office action, claims 1-12,15-17,21-23,27-29 were amended. As a result, claims 1-33 are now pending in this application.

The amendments in the claims have overcome the specification objection in the previous office action.

Claims 1-33 are rejected.

Applicant's arguments filed have been fully considered but they are mooted in view of new ground(s) of rejection necessitated by the Applicant's amendments to the claims.

Claim Rejection 35 USC 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-3 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

As in claim 1, the claim directs to virtual device interface that in view of applicants' disclosure, paragraph 38 is defined as a software.

Thus the claimed system in claim 1 only has a software which is a non-statutory matter. Since the claim does not have statutory subject matter and is therefore non-statutory.

Claims 2-3 are rejected as having the same deficiencies as the claim(s) they depend from.

U.S.C. 112, second paragraph

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As in claim 1, the claimed system only recites a software and no structural element was claimed. Without structural element, it's is not clear what constitutes the claimed system.

Dependent claim(s) 2-3 are rejected as having the same deficiencies as the claim(s) they depend from.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2188

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4,6,10-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trimmer'39 et al (2004/0153739; incorporated reference Trimmer'11 et al (2004/0034811)), in view of Anna et al (US Pub 2004/0078639).

As in claim 1, Trimmer'39 describes a system comprising: a virtual device interface, wherein said virtual device interface is configured to allow a primary storage device to be accessed using at least one operation that is substantially the same as that used to control a second storage unit (Trimmer'39's paragraphs 14-15 discloses that by using identical commands (ie.using tape device accessing command), host computer #56 can access data in both disk "primary" storages Fig 5: #54 and physical tape "secondary" off site storage), said virtual device interface is coupled to control said primary storage device and said secondary storage device (see Trimmer'39's paragraph 15, the virtual tape library system capable of electronically copy data , for example, to local disk storage #54 and to remote off site physical tape library), said primary storage device is configured to provide access to data stored on the non-removable storage media (Trimmer'39's paragraph 31 discloses the "primary" storage devices #54 comprise of non-removable media using in devices such as disks, thus inherently these devices are configured to interpret host's access command (i.e virtual tape access command) to appropriate disk access

commands), and said secondary storage device is configured to permit access to data stored on the removable storage media (Trimmer'39's paragraphs 15,21 discloses the off site storage device is a physical tape library with removable tape media that corresponds to the claim's removable storage media. Furthermore, this "secondary storage device" is inherently capable of interpreting access command (i.e interpreting virtual tape commands, and only allowing to access data if these commands are in the right format (for example, to access a physical tape media, the access command must be in the format of the corresponding physical tape)).

Regarding the claim's aspect of "said secondary storage unit device comprises removable storage media", Trimmer'39's paragraphs 15,21 clearly discloses the "secondary" storage device is a physical tape device that comprises removable tape media.

Regarding the claim's aspect of "said primary storage unit device comprises non-removable storage media". Trimmer'39's paragraph 19 discloses the host incoming data can be stored in a VTL's default storage area, which is typically a non-removable storage area. Trimmer 's 39's does not expressly disclose the non-removable storage area, as a device comprises non-removable storage media. However, Anna discloses a virtual tape library having primary storage device comprises of non-removable storage media (Anna's Fig 2: DASD, paragraph 19 hard disk drive device comprises non-removable disk media storing data in files as a DASD cache, a primary storage device). It would have been obvious to one of ordinary skill in the art at the time of invention to include Anna's file system manager as suggested by Anna in Trimmer'39's system to organizing all the files in a volume in a directory and thereby providing an efficient method of recovering lost or inaccessible data in a volume (Anna's page 4, paragraph 57; page, paragraph 66).

As in claims 2-4,6, the claims recite wherein said virtual device interface is further configured to allow a utility to access said primary storage device as said secondary storage device (claim 2); wherein said virtual device interface is a virtual tape interface (claim 3); said primary storage device (claim 4); a secondary storage device (claim 6). The claim rejected based on the same rationale as of claim 1.

As in claim 10, the claim rejected based on the same rationale as of claims 1 and 5.

As in claim 11, the claim recites wherein said secondary storage device is a tape backup unit, and said primary storage device is a hard drive. The claim rejected based on the same rationale as of claim 10.

Claims 12,18,24,30 rejected based on the same rationale as of claim 5.

As in claims 13-14, the claims rejected based on the same rationale as of claim 5. The claims further recite wherein said creating creates a directory on said hard drive (claim 13); storing information on a virtual tape in said virtual loader, wherein said storing stores information in a file in said directory, and said file corresponds to said virtual tape (claim 14). Trimmer'39 and Trimmer'51 does not describe the claim's detail of a directory. However, Anna describes data of logical volumes in a virtual tape server are stored in files and in directories structures (Anna's page 2, paragraph 20). It would have been obvious to one of ordinary skill in the art at the time of invention to include Anna's file system manager as suggested by Anna in Trimmer'39's system to organizing all the files in a volume in a directory and thereby providing an efficient method of recovering lost or inaccessible data in a volume (Anna's page 4, paragraph 57; page, paragraph 66).

As in claim 15, the claim recites wherein said secondary storage device is communicatively coupled to said virtual tape interface. The claim rejected based on the same rationale as of claim 5.

Claims 16,22,28 rejected based on the same rationale as of claim 10.

Claims 17,23,29 rejected based on the same rationale as of claim 11.

Claims 19-20,25-26,31-32 rejected based on the same rationale as of claims 13-14 correspondingly.

Claims 21,27,33 rejected based on the same rationale as of claim 15.

Claims 5,7-9 rejected under 35 U.S.C. 103(a) as being unpatentable over Trimmer'39 et al (2004/0153739; incorporated reference Trimmer'11 et al (2004/0034811)) in view of Anna et al (US Pub 2004/0078639), and further in view of Trimmer et al (2004/0111251).

As in claim 5, Trimmer'39 does not expressly disclose the associated software modules to interpret storage access command. However, Trimmer'51 discloses the software modules for the Virtual Tape Library (VTL) as follows:

wherein said virtual tape interface is configured to create a virtual loader on said primary storage device (Trimmer'51's paragraph 11 discloses the VTL can create/emulate a physical tape device driver (emulation module, corresponding to the claim's virtual loader) for each backend media device. Trimmer'51 paragraphs 32,36 further discloses that the emulation module Fig 2: #58 is capable of interpreting "front end" host accessing commands being issued as tape device access commands; the emulation module #56 utilizes other modules #59. n to convert these commands into particular commands using for the backend device modules. In other words, the

Art Unit: 2188

software emulation module can accept host “front end” commands in a first command format (tape command format) and convert to a second command format (disk command format) for the “backend” disk device media. Of course, if the backend devices are physical tape library device, there is not need for this command conversion. It would have been obvious to one of ordinary skill in the art at the time of invention to include the virtual tape library modules and methods as suggested by Trimmer'51 in Trimmer'39 system thereby allowing the host to use one set of command to access the backend device regardless the backend devices are physical tape or physical disks (Trimmer's51 paragraphs 32,36).

As in claim 7, a virtual loader library, communicatively coupled to said primary storage device; and a virtual loader utilities module, communicatively coupled to said virtual loader library (Trimmer'51 teaches the VTL communicates with emulation module, and comprising of: utility functions to obtaining information for a given virtual tape library such as current number of slots; Page 2, paragraph 20; Utility functions to operating tape devices such as moving robot arms; Page 3, paragraph 25).

As in claim 8, the claim recites a main module, communicatively coupled to said virtual loader library, and a configuration file, accessible by said main module, wherein said configuration file comprises information that allows said virtual loader library to create a virtual loader on said primary storage device. The claim rejected based on the same rationale as of claim 7. Trimmer'51 further discloses a configuration file to keep specifications for the emulation module and to configure a virtual tape library accordingly to the specifications; paragraphs 15-17, Fig 1.

As in claim 9, the claim recites said virtual loader library is configured to allow a utility to access said primary storage device as said secondary storage device. Trimmer'51 page 3, paragraph 25 further discloses the VTL has code modules to carry out utility functions such as copying data to a backup library.

Response to Arguments

Applicant's arguments in response to the last office action has been fully considered but they are not persuasive. Examiner respectfully traverses Applicant's arguments for the following reasons:

- A) Regarding remarks on page 10 for the specification objection in the previous office action. The amendments in the claims have overcome the objection.
- B) As to the remarks on page 10-12 for the rejection of the amended claims 1-33. The arguments are mooted in view of new ground(s) of rejection necessitated by the Applicant's amendments to the claims.

Conclusion

When responding to the office action, Applicant is advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist examiner to locate the appropriate paragraphs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Duc T. Doan whose telephone number is 571-272-4171. The examiner can normally be reached on M-F 8:00 AM 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hyung S. Sough can be reached on 571-272-6799. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Kevin L. Ellis
Primary Examiner
Kevin L. Ellis
4/12/07